

Global Information Grid

Architecture Development

Briefing to the CIO Executive Board



The Global Information Grid





OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE 6000 DEFENSE PENTAGON WASHINGTON, DC 20301-6000

September 22, 1999

MEMORANDUM FOR PRINCIPAL STAFF ASSISTANTS, OFFICE OF THE SECRETARY OF DEFENSE

DIRECTOR, COMMAND, CONTROL, COMMUNICATIONS
AND COMPUTER SYSTEMS, JOINT STAFF
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DEPARTMENT OF NAVY, CHIEF INFORMATION OFFICER
U.S. NAVY CHIEF INFORMATION OFFICER
U.S. AUX CHIEF INFORMATION OFFICER
U.S. AIR FORCE CHIEF INFORMATION OFFICER
U.S. MARINE CORPS CHIEF INFORMATION OFFICER
CHIEF INFORMATION OFFICERS OF THE DEFENSE AGENCIES
DIRECTOR, INTELLIGENCE COMMUNITY MANAGEMENT
STAFF
DIRECTOR, NATIONAL RECONNAISSANCE OFFICE

INTELLIGENCE COMMUNITY CHIEF INFORMATION OFFICER

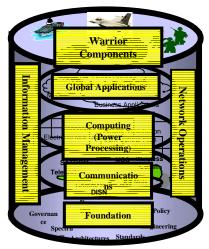
SUBJECT: Global Information Grid

Reference: ASD(C3I) Memo, 25 Nov 98, Global Networked Information Enterprise -Developing the Foundation for the Future

On December 8, 1998 we began an effort to develop policies for the DoD's and Intelligence Community's Information Technology activities. Over the last nine months the Global Networked Information Enterprise (GNIE) initiative has made great strides thanks to the thrust area leaders and the hundreds of representatives from the DoD and Intelligence Community. Most notably, I thank all of your personnel who have participated in the development of forward looking policies that address governance, resourcing, technology, networks, network management, interoperability, information management, information dissemination management, information assurance, and enterprise computing. As a community we have met and discussed the policies, their implications and their implementation. These policies are moving through the coordination cycle and I will issue them as CIO Guidance and Policy Memorandum as soon as final coordination is completed.

To highlight the fact that we are moving toward implementing an enterprise solution for the DoD and IC, I have agreed to change the name to align with the related Joint Staff term for the Capstone Requirements Document under development. This enterprise solution is called the "Global Information Grid (GIG)". This term is defines the GIG as follows:





Global Information Grid

The *globally interconnected*, *end-to-end* set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating and managing information on demand to warfighters, policy makers, and support personnel. The GIG includes all owned and leased communications and computing systems and services, software (including applications), data, security services and other associated services necessary to achieve Information Superiority. It also includes *National Security Systems* as defined in section 5142 of the Clinger-Cohen Act of 1996. The GIG supports all Department of Defense, National Security, and related Intelligence Community missions and functions (strategic, operational, tactical and business), in war and in peace. The GIG provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms and deployed sites). The GIG provides interfaces to coalition, allied, and non-DoD users and systems.

Today's Objective

- Agree on a Systems Reference Model for the Global Information Grid
- Agree on overall architecture development plan

Key Attributes of a Reference Model for the GIG

Traceable to Joint Mission and "Combat Support" areas which are "broader than C4," "broader than C4ISR", "broader than IT"

Descriptive of the Joint operational, systems and technical nature of the Global Information Grid architecture

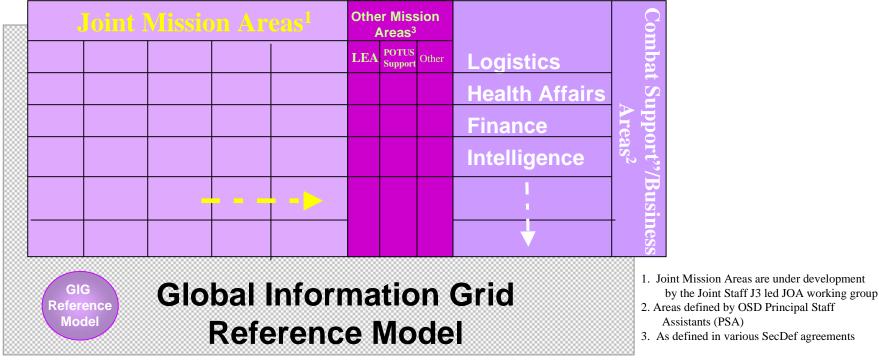
Relevant and durable under various scenarios (e.g., defense postures, technology futures, threats)

Descriptive of the "as is, as operated" baseline and useful for framing "to be" discussions of investments and economies



Mission Capabilities Based Context

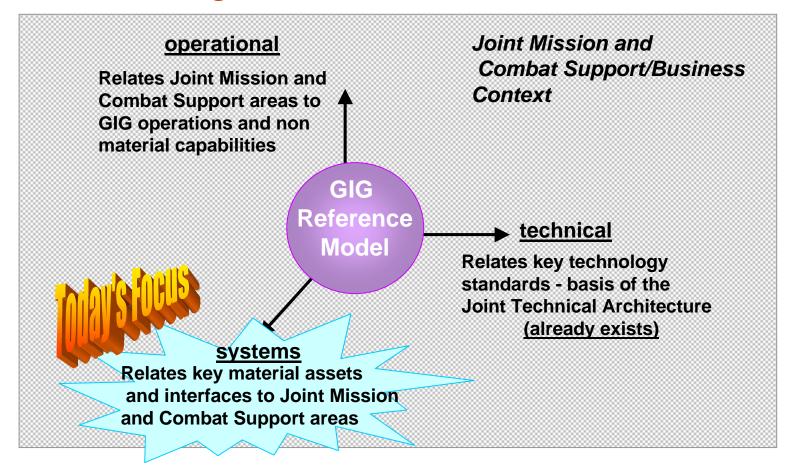




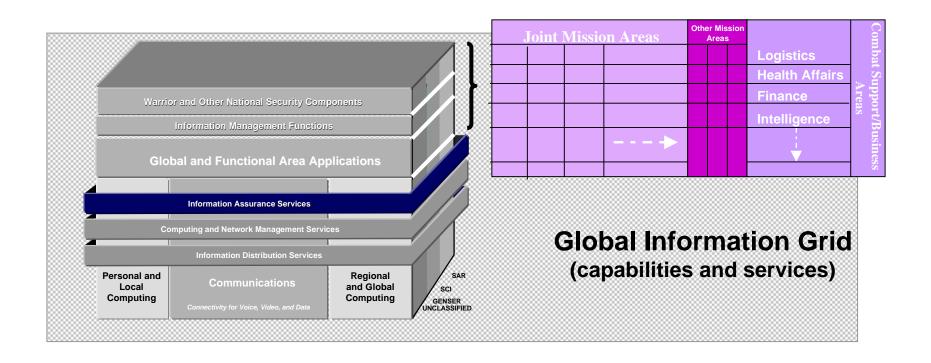
GIG Reference Model Ties IT to Joint Mission, Combat Support and Business Areas

Which Leads to ...

A reference having three interrelated model views

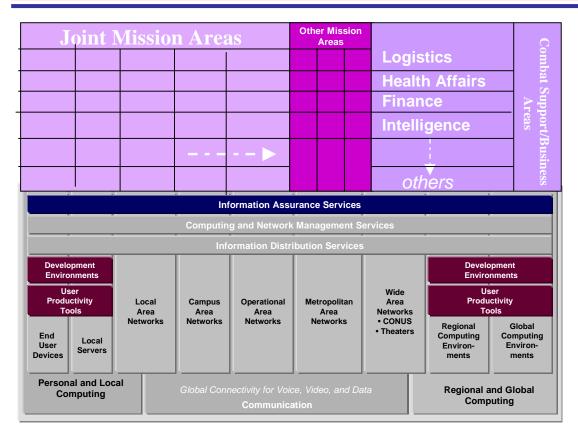


GIG Systems Reference Model



The Global Information Grid enables
Joint Mission and Combat Support/Business operations

Communications & Computing Information Technology



Joint Mission Areas under consideration

JMA 2 Movement and Maneuver

JMA 2-1 Land Control

JMA 2-2 Maritime Superiority

JMA 2-3 Air Superiority

JMA 2-4 Space Superiority

JMA 3 Employ Firepower

JMA 3-1 Strategic Attack JMA 3-2 Interdiction

JMA 3-3 Joint Fires (?)

JMA 4 Strategic Deterrence

JMA 5 Military Operations Other Than War (MOOTW)

JMA 6 Special Operations

... others

Computing and Communications Information Technology

- Owned Capabilities
- Leased Services

... represents the Information Technology needed to support all mission areas and functional processes

Moving from the Reference Model to the Architecture

Product - what's the intended use of the Architecture V1.0

Process - what's the overall game plan and schedule?

Piece Parts - who's in charge of developing what?

Integration - who puts the piece parts together?

Oversight - who watches over the process?

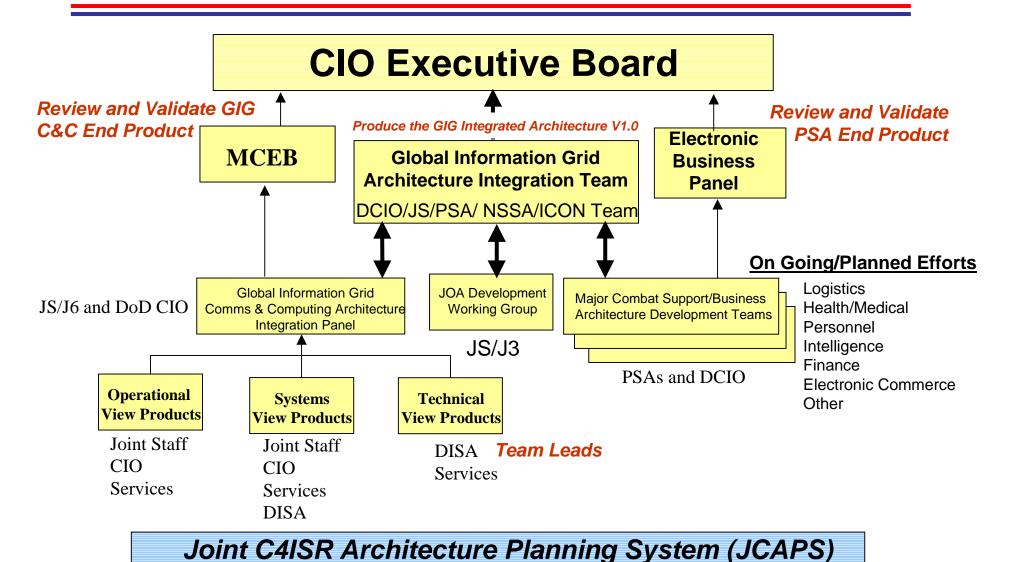
Decision Authority - who approves the products?

Incremental versions - NO GRAND DESIGNS

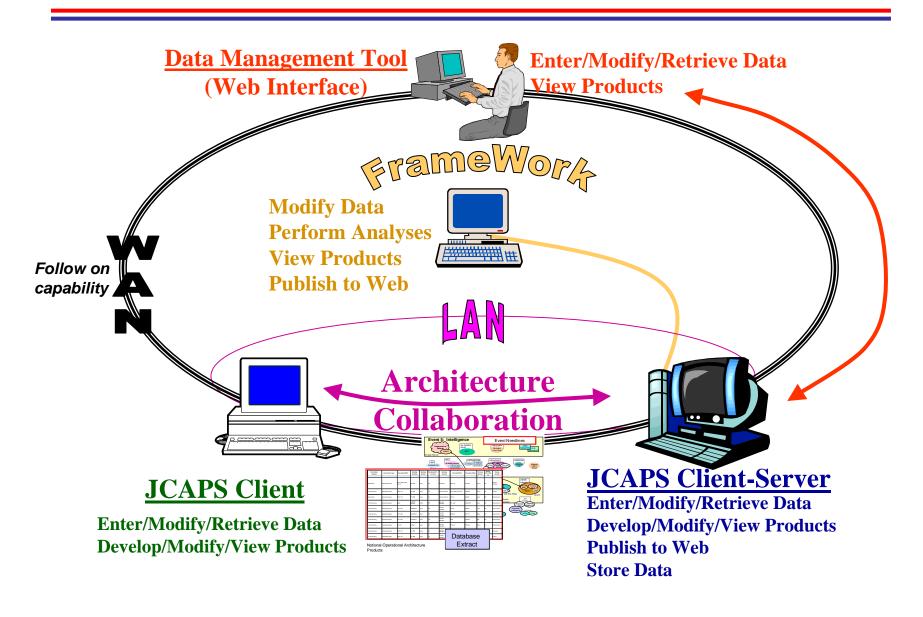
Version 1.0 Product Priorities

- Architecture detail to sufficient to sustain the GIG Waiver Process
- Limited detail across all areas to support input to the GIG CRD
- Influence DoD/IC Investment discussions (FEA/PRG) -Low Hanging Fruit
- Define GIG impact on Joint Mission Areas & Weapons Acquisition Community

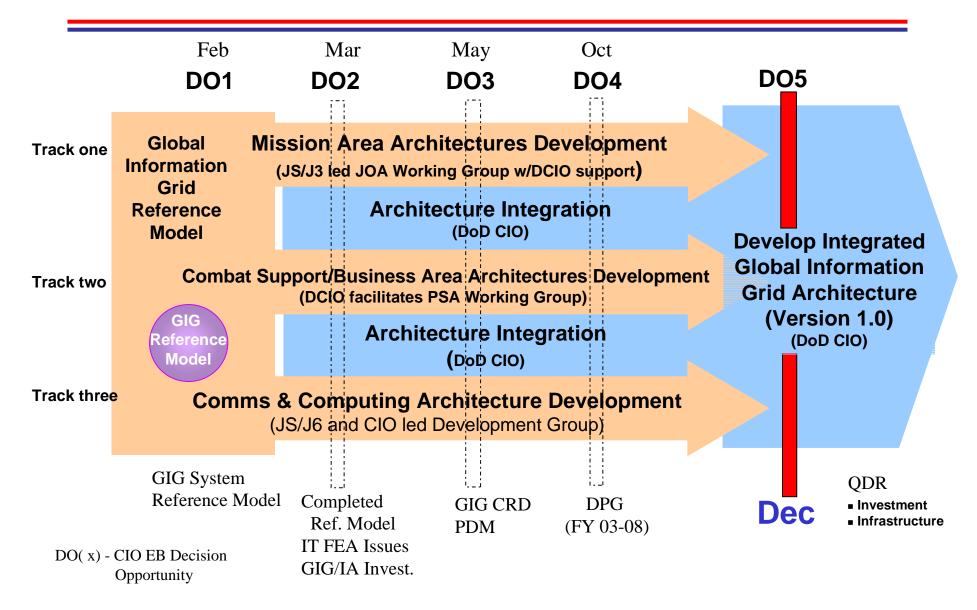
GIG Architecture Task Organization



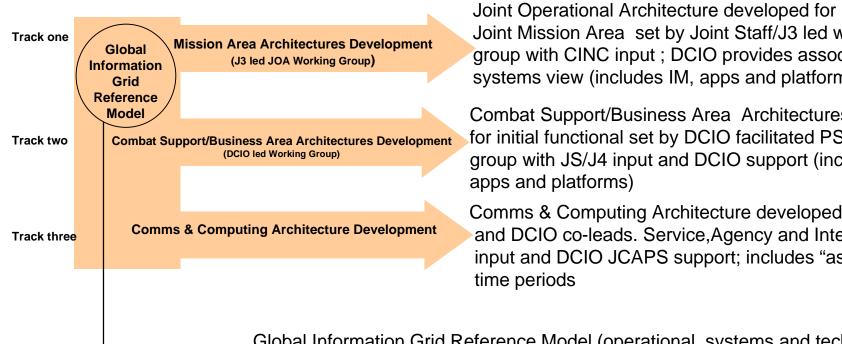
Joint C4ISR Architecture Planning System



Three Track Architecture Process



Development of GIG Architecture "IT piece parts"

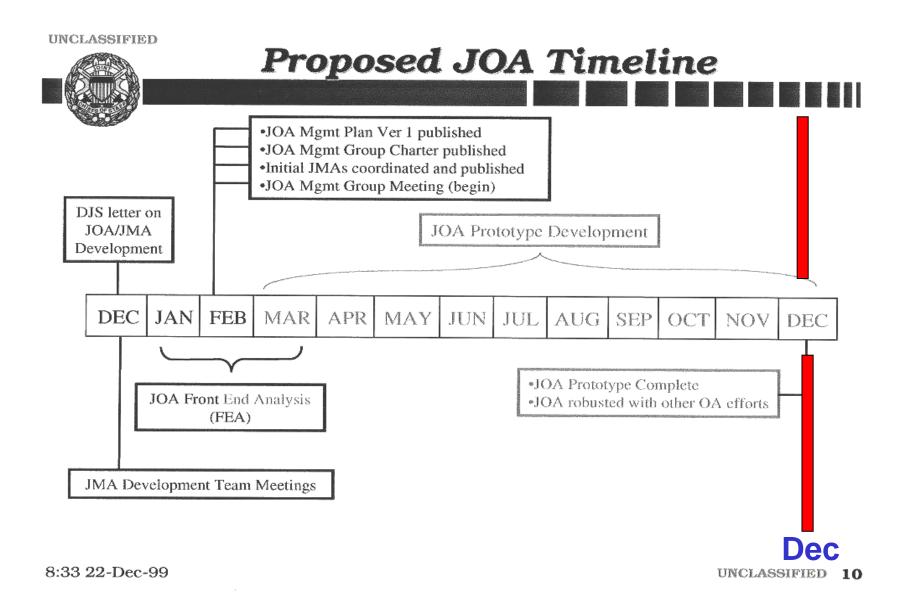


Joint Operational Architecture developed for initial Joint Mission Area set by Joint Staff/J3 led working group with CINC input; DCIO provides associated systems view (includes IM, apps and platforms)

Combat Support/Business Area Architectures developed for initial functional set by DCIO facilitated PSA working group with JS/J4 input and DCIO support (includes IM,

Comms & Computing Architecture developed under J6 and DCIO co-leads. Service, Agency and Intell Community input and DCIO JCAPS support; includes "as is" and "to be'

- Global Information Grid Reference Model (operational, systems and technical views completed by DCIO led working group for CIO EB review and CIO approval
 - Operational view to be completed by JS/J3/J6 w/DCIO
 - Systems View completed and presented to CIO EB
 - Technical View completed as the DoD Technical Ref Model (TRM)



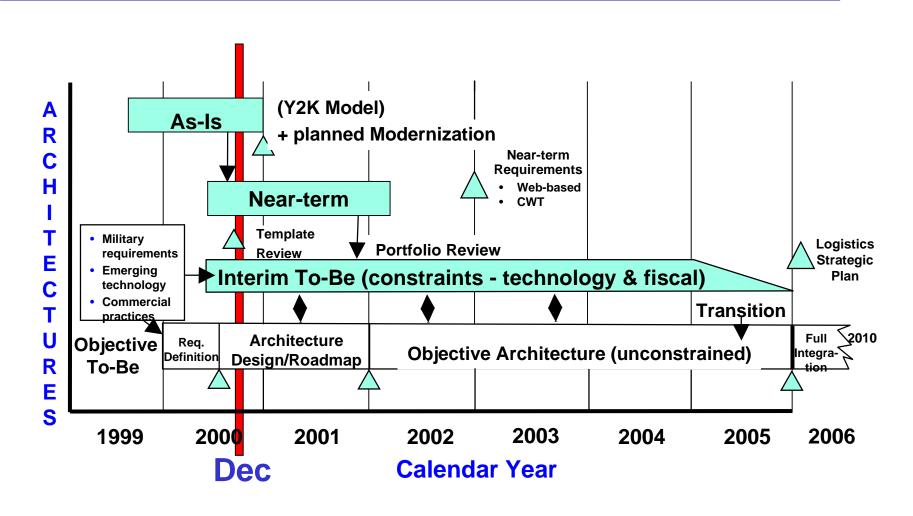
Track 2 Combat Support/Business Area Candidates

- $\bullet \quad \underline{\text{USD}(A\&T)}$
 - Economic Security
 - Environmental Security
 - Logistics
 - Procurement/Contract Admin
 - Science and Technology
 - Systems Acquisition Mgmt
- **◆** <u>USD(P)</u>
 - NBC Defense Programs
 - Policy
- **◆** <u>USD(C)</u>
 - Finance
- DOT&E
 - Test and Evaluation

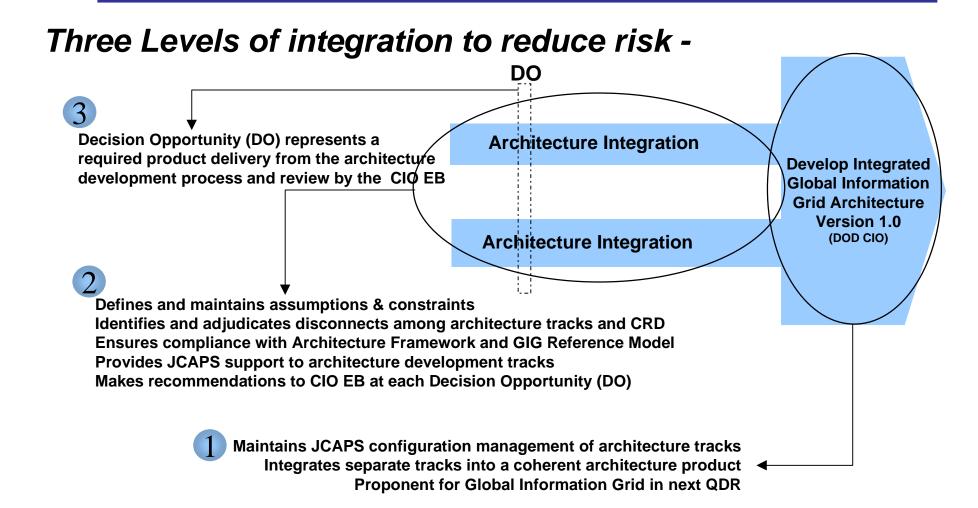
- **◆** <u>USD(P&R)</u>
 - Civilian Personnel
 - Health
 - Military Personnel and Readiness
 - Reserve Affairs
- **◆ ASD(C3I)**
 - Command and Control
 - Info Management
 - Intelligence
- "Other Staff"
 - Inspector General
 - General Counsel
 - Other as specified

Reference: FY 2000-05 POM Preparation Instructions

Example: Logistics Operational and Systems Architectures



GIG Architecture Integration



Next Steps

☐ DoD CIO approve the Global Information Grid Systems Reference Model as discussed
To support the evolving Mission and Combat Support/Business capability based perspective
To guide development of the full GIG architecture
To Facilitate CIO IT Resource Focus
$oxedsymbol{\square}$ CIO EB support overall plan to produce the GIG architecture V1.
☐ Joint Staff and DoD CIO undertake the development of the GIG Operational Reference Model as part of the
GIG V1.0 architecture Decision Opportunity Two